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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,981	09/13/2006	Richard Oberland	17653.3	1255
22913	7590	03/30/2009	EXAMINER	
Workman Nydegger 1000 Eagle Gate Tower 60 East South Temple Salt Lake City, UT 84111			TRAN, DZUNG D	
			ART UNIT	PAPER NUMBER
			2613	
			MAIL DATE	DELIVERY MODE
			03/30/2009	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/595,981	OBERLAND, RICHARD	
	<b>Examiner</b>	<b>Art Unit</b>	
	Dzung D. Tran	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Specification***

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizuhara US Patent no. 6,535,316 in view of Miyamoto US Patent no. 6,559,996.

Regarding claims 1 and 4, Mizuhara discloses in Figure 3, a method/apparatus of an optical transmitter comprising:

a dual electrode Mach Zehnder modulator 305 to which an unmodulated coherent light source is coupled, wherein the output of the first RZ converter 302a is connected to a first electrode of the Mach Zehnder modulator and the output of the second RZ converter 302b is connected to a second electrode of the Mach Zehnder modulator.

Mizuhara does not specifically disclose a differential encoder having first and second outputs, the first and second outputs being of opposite polarity to one another, a first RZ converter connected to the first output of the differential encoder and a second RZ converter connected to the second output of the differential encoder.

Miyamoto, from the same field of endeavor, discloses in Figure 10, a differential encoder 72 having first and second outputs, the first and second outputs being of

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opposite polarity to one another and connected to the first electrode and the second electrode of the Mach Zehnder modulator respectively.

At the time of the invention was made, it would have been obvious to an artisan to include the differential encoder taught by Miyamoto in the apparatus of Mizuhara. One of ordinary skill in the art would have been motivated to do that in order to produce pre-code electrical signal in complementary form and for providing differentiated ternary level pulses having first level, second level and third level at a rising edge, a duration between a rising edge and a falling edge and a falling edge of said pre-coded signal, respectively, so that polarity of a pulse at said rising edge is opposite to that at said falling edge so that a RZ optical signal can be produced corresponding to the differentiated pulse. (col. 4, lines 25-41 of Miyamoto).

Regarding claims 2 and 5, Mizuhara discloses inverter 304 for inverting RZ drivers to convert RZ signals output from the RZ converters to inverted RZ signals.

Regarding claims 3 and 6, Miyamoto discloses wherein one of the RZ converter outputs can be delayed by adjusting the phase of a clock signal input to the RZ converter (see Figure 29).

### ***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Wei et al. U.S. Patent no. 7,068,948. Generation of optical signals with Return to Zero format

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b. Froberg et al. U.S. Patent no. 5,625,722. Method and apparatus for generating data encoded pulses in Return to Zero format

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dzung D Tran whose telephone number is (571) 272-3025. The examiner can normally be reached on 9:00 AM - 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dzung Tran

03/21/2009

/Dzung D Tran/

Primary Examiner, Art Unit 2613

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